

HB 4423-4425
10/20/16

Jackie Mosher

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Sent: Monday, October 17, 2016 3:04 PM
To: Jackie Mosher
Subject: 85th percentile
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To: Senate Transportation Committee
From: Washtenaw Bicycling and Walking Coalition info@wbwc.org

Dear Senate Transportation Committee,

Please accept the attached statement from the Washtenaw Bicycling and Walking Coalition (WBWC), which concludes:

WBWC recommends against using the 85th percentile method when determining posted speed limits on transportation corridors currently used by bicyclists, walkers, or wheelchair users, and/or where an increased pedestrian presence is desired.

WBWC, with its coalition partners, represents the interests of thousands of bicyclists and walkers throughout Washtenaw County.

One example that exemplifies the adverse impacts of the 85th percentile method for motorists can be found in Washtenaw County on M-14 near the Barton Drive entrance/exit in Ann Arbor. The speed limit was set at 55 mph to enable motorists to exit and enter the highway more safely. This location is extremely dangerous because of the design of the entrance/exit ramps, however the speed limit was raised to 65 mph due to an 85th percentile speed study in 2010. (<http://www.annarbor.com/news/speed-limit-raised-to-65-miles-per-hour-on-m-14-near-barton-drive/>) As you heard from the testimony of Dr. Gates to your committee on September 8th, the speed limit increase led to a significant increase in accidents along that stretch of roadway. The 85th percentile method fails to factor in numerous critical variables that are important factors in safety and we must begin to rethink the value of a method that is proving to be unsafe, not just for cyclists and pedestrians, but for motorists as well.

However, WBWC focuses on the needs of bikers and walkers, and as such, the remainder of our statement will emphasize the specific challenges the 85th percentile method poses for these user groups. Ann Arbor boasts a 4% bicycling and 16% walking commuter mode share, high above the national average. In 2008, in response to an 85th percentile study, the speed limit on North Main Street heading into downtown Ann Arbor off of M-14, was raised from 40 to 45mph. This stretch of North Main Street travels parallel to the Huron River and is surrounded by natural areas and recreational facilities. Thousands of bikers use North Main Street to access Huron River Drive, a popular destination for recreational cyclists. The Border-to-Border Trail and the Ann Arbor Rowing Club are frequented by bicyclists and walkers, many of whom are high school students traveling to the rowing club for after school practices. WBWC has been contacted by numerous bicycle commuters who fear for their safety along this stretch of MDOT-controlled roadway due to high speeds and poor infrastructure. Studies have shown that when

motorists are traveling at 45 mph, a pedestrian or cyclist has an 85% chance of dying when hit. The safety needs of these users, not a small population in Ann Arbor, were not accounted for when the speed limit was raised to 45mph.

Washtenaw Avenue is another area in Ann Arbor where the 85th percentile method raised the limit in 2008 (http://blog.mlive.com/annarbornews/2008/04/speed_limits_to_go_up.html). Last October a bicyclist was killed there—a young father, on his way home from work. It was dark and rainy. As you know, the 85th percentile speed is determined when conditions are ideal: daylight, no rain. Further, drivers who are slowing for bicyclists are not counted in an 85th percentile speed study. It becomes a vicious cycle, when speed limits are raised according to such a study, fewer non-motorists dare to frequent the area, and it becomes more dangerous for those who do.

We respectfully request that you consider the lives of not only motorists but also non-motorized users when evaluating legislation. And when you evaluate cost-benefit ratios of increasing speed limits, please don't forget to figure in the health care costs of increased crashes, and the economic (not to mention psychological) blow to families that lose a loved one.

Thank you for considering this testimony.

Peter Houk, WBWC Board Chair on behalf of
The Washtenaw Bicycling and Walking Coalition
Ann Arbor, Michigan

Statement Regarding the 85th Percentile Method of Setting Speed Limits: Impact on Pedestrians.

(For the sake of simplicity, the term "pedestrian" will be used here to refer to all non-motorists, e.g. walkers, bicyclists, and wheelchair users.)

Dec. 14, 2015

In October 2015, Ann Arbor City Council, joined a number of other U.S. cities in adopting a Vision Zero Policy. The Vision Zero philosophy holds that no level of fatality on our roadways should be viewed as inevitable or acceptable, and sets a goal of zero traffic fatalities. One of the major contributing factors to traffic fatalities and serious injuries is speed, particularly for pedestrians and bicyclists. A 2011 study conducted by AAA¹ states that *"In places such as residential streets and urban areas designed to allow pedestrians and vehicles to be in close proximity to one another, examples of measures to reduce vehicle speeds include traffic calming techniques such as speed bumps, lane narrowing, and changes in roadway curvature, as well as increased enforcement or reduction of speed limits."*

The Washtenaw Bicycling and Walking Coalition (WBWC) supports AAA's findings and efforts to reduce vehicle speeds to levels consistent with Vision Zero. As car speeds go up, injury upon impact to pedestrians rises exponentially. The AAA study, the most conservative study we could locate, found that pedestrians have a 10% risk of dying at an impact speed of 23 mph, 25% at 32 mph, 50% at 42 mph, 75% at 50 mph, and 90% at 58 mph.

It's clear from these findings that the ability to regulate speeds on urban streets is an important tool for communities interested in protecting pedestrian safety. However, there are efforts underway to further restrict the power of urban communities to regulate speeds by expanding the use of the 85th percentile method of setting speeds. This method uses a speed study to collect speeds of passing cars and plots them to determine the 85th percentile speed. We have several concerns with use of this method on roadways where pedestrian traffic is desired:

1. Use of the 85th percentile tends to result in higher posted speed limits.

There is a commonly-held misconception that the 85th percentile is the speed at which 85% of the population is driving. It is actually faster than 85% of the other drivers. It is the "head of the pack," faster than most people are comfortable driving. Thus when a speed study recommends setting the speed to the 85th percentile, the result is typically a new posted speed greater than what most people are currently driving. For an illustration, please see <http://www.michiganspeedlimits.org/#!85th-percentile/c52q>.

2. The speed studies are performed under "optimal conditions," rather than normal conditions.

When collecting data for an 85th percentile speed study, only vehicles that are moving steadily are counted. Drivers slowing down or braking because a walker or bicyclist is present or because a vehicle is turning are NOT COUNTED. Thus, the 85th percentile method sets limits reflecting only those drivers who are not responding to pedestrian activity or normal conditions. Additionally, only vehicles driving in daylight and good weather conditions are counted. According to the U.S.

¹ Impact Speed and a Pedestrian's Risk of Severe Injury or Death (2011)
<https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf>

Department of Transportation, only 25% of pedestrian fatalities occur in daylight.² But the 85th percentile method sets limits assuming optimal visibility.

3. Use of the 85th percentile method does not improve safety for all roadway users.

The method is based on research by David Solomon in the late 1950s and published in 1964. Subsequent researchers have found different results. In fact, studies find the risk of involvement in a casualty crash increases more than exponentially with increasing speed, while slower driving lowers the risk of being involved in a casualty crash.³

The logic behind the 85th percentile method is that if drivers are allowed to drive at the speed they are "most comfortable," then there will be less disparity between car speeds, thus less passing and fewer accidents. The National Highway Traffic Safety Administration, the Federal Highway Administration, and the Centers for Disease Control and Prevention say, "Some have interpreted these [Solomon study] results to suggest that it is as unsafe to drive below as above the average traffic speed. This ignores the fact that drivers involved in a crash at higher speeds are at greater risk of injury than those driving at lower speeds, a relationship that Solomon confirms in his analysis of the relation between speed and crash severity."⁴

In other words, if reducing disparity in car speeds is the goal, then encouraging a cultural shift towards driving slower than the 85th percentile mark makes far more sense than encouraging drivers to surpass it.

Our recommendation

According to the U.S. Chamber of Commerce, walkable communities benefit from stronger economic growth, higher commercial rents and better-educated residents.⁵ Our communities must have a full toolbox to create safe communities to walk and bike. The Washtenaw Bicycling and Walking Coalition firmly believes that changing the physical environment of our transportation corridors is the most effective way to lower car speeds and increase pedestrian usage. However, we concur with AAA that reduction of speed limits is also an essential tool to create safe communities for our residents to walk.

As such, WBWC recommends against using the 85th percentile method when determining posted speed limits on transportation corridors currently used by bicyclists, walkers, or wheelchair users, and/or where an increased pedestrian presence is desired.

WBWC, with its coalition partners, represents the interests of thousands of bicyclists and walkers throughout Washtenaw County.

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• www.wbwc.org *Promoting transportation options that make sense for a sustainable and livable community.*

² <http://www-nrd.nhtsa.dot.gov/Pubs/812124.pdf>

³ https://en.wikipedia.org/wiki/Solomon_curve

⁴ Transportation Research Board Special Report 254: MANAGING SPEED Comparison of Speed Zoning Procedures and Their Effectiveness. <http://onlinepubs.trb.org/onlinepubs/sr/sr254.pdf>

⁵ <https://www.uschamber.com/above-the-fold/citing-economic-benefits-report-ranks-us-cities-walkability>